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IS : 5508 (Parts I to V) - 1969

Indian Standard

GUIDE FOR FISHING GEAR

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MANAK BHAWAN, 9 BAHADUR SHAH ZAFAR MARG
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TO

IS : 5508 (Parts I to V)-1969 GUIDE FOR FISHING GEAR

PART I GENERAL

Addendum

(*Page* 4, *clause* **A-4.18**) — Add the following new clause after **A-4.18**:

' **A-4.19 Mud Filter** — A piece of netting, of thicker twine and larger mesh size compared to the specifications of the webbing with which the lower belly is fabricated, attached to the bosum of the lower belly in a bottom trawl adjacent to the foot rope for easy filteration of Mud and other sediments that adhere to the lower mouth region while the foot rope scrapes the bottom. '

(TDC 42)

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Indian Standard

GUIDE FOR FISHING GEAR

Textile Materials for Fishing Purposes Sectional Committee, TDC 42

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI

Indian Standard

GUIDE FOR FISHING GEAR

PART I GENERAL

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 6 November 1969, after the draft finalized by the Textile Materials for Fishing Purposes Sectional Committee had been approved by the Textile Division Council.

0.2 The idea behind compiling a guide for fishing gear designs was that the construction of a specific fishing design would be of particular value in a country like India where the development of fisheries is still in its infancy. It would provide assistance in selecting the suitable gear, the criteria in respect of dimensions and facilitate in placing complete and correct orders for the construction of gear. Besides, it would also be of tremendous value to fisheries training centres. It is also expected that the guide would be most useful in serving as a link between the fishermen and the gear technologists.

0.3 Hitherto, there was no common denominator by which fishing gear could be specified and, consequently, no adequate means of comparing the various types of gear. To achieve this purpose of intelligent communication in respect of gear construction between gear technologists and net makers, the gear drawings in the guide had to: a) be clearly understandable, b) provide information on the main dimensions by direct reading of numbers from the drawings, and c) allow direct comparison of shape between different gears of the same type.

This has been achieved by using a minimum of words in the drawings; by making the drawings of all trawl nets on a 1 : 2 presentation of the mesh hanging and by providing a prominent scale indicator on all drawings.

0.4 It has to be noted that not all the drawings are complete to the last detail, but sufficient detail has been given in all cases for any one initiated into the general principles and practices of net making, to construct any one of them. The intention is to provide more than a construction manual. The guide has been got up in a form whereby one net or gear may readily be compared with another as to its size, shape and strength.

0.5 Both drawings and data sheets are used to present the information, the former to give an impression of the size and shape of the gear as well as certain constructional details, the latter to convey certain information that cannot easily or tidily be shown in the drawings. Some of the information on the drawings and data sheets is duplicated, but it is believed that this will save the reader and user of the guide the time and effort in quickly comparing nets with one another as well as in rapidly grasping their constructions.

0.5.1 The detailed drawings are neither to scale nor exact. They are meant to give essential impressions to any gear expert who wishes to choose one gear rather than another and who may wish to construct one.

---

1. SCOPE

1.1 This guide specifies the principal constructional details of various types of nets like trawl, gill, seines, etc, for fishing gear. The constructional details for fabricating a particular type of net have been given in the form of drawing and data sheet. Each such drawing and data sheet is complete enough for the fabrication of a particular type of net and, as such, forms a distinct part of the guide. The method of representation followed on the data sheets and on the drawings has been detailed out in 2 and 3 of this guide. When a set of drawings and data sheets consisting of several parts falls into a natural group, it is followed by an explanatory note given in the form of an appendix giving the terminology and other related details applicable to that gryoup.

2. METHOD OF REPRESENTATION ON DATA SHEETS

2.0 General — Each data sheet consists of 5 sections — the first section classifies the gear; the second specifies the webbings; the third specifies the ropes; the fourth specifies the floats, sinkers and any additional auxiliaries indicated by reference numbers on the drawings; while the last section deals with any vital additional information.

2.1 Netting Panels

2.1.1 The various panels in the drawings are specified in capital letters using subscript numericals where necessary. The panel letters are cross-referenced with the data sheets. Mesh sizes have been indicated by the symbol ◊ in the appropriate panel.

2.1.2 *Material* — Manila, sisal, cotton, nylon are all taken as names being in common use and have been used as such. Reference to trade names has been avoided.

2.1.3 *Twine Size* — This is specified according to relevant Indian Standard.

2.1.4 *Stretched Mesh* — Mesh sizes have been specified in millimetres. True mesh size has been used, that is, the length of one lumen plus knot with the meshes stretched.

2.1.5 *Upper Edge* — The number of meshes along the top of each panel has been given.

2.1.6 *Lower Edge* — The number of meshes along the bottom of each panel has been given.

2.1.7 *Depth* — The number of meshes down in one vertical line of each panel has been given.

2.1.8 *Baiting Rate* — Decreasing or reducing the number of meshes in successive rows so as to make a tapering piece of webbing. Wherever the webbing is tapered differently on its two edges, then the baiting rate for both the inner and outer edges is specified separately.

2.1.9 *Hanging* — Ratio of attachment of webbing to a supporting rope or line.

2.2 Lines, Ropes

2.2.0 The various ropes and lines are designated in lower case letters. These letters are cross-referenced with drawings.

2.2.1 *Material* — Manila, sisal, cotton, nylon are all taken as names being in common use and have been used as such. Reference to trade names has been avoided.

2.2.2 *Diameter* — In all cases, this is specified in millimetres.

2.2.3 *Length* — In all cases, this is specified in metres.

3. METHOD OF REPRESENTATION ON DRAWINGS

3.1 For facilitating comparison of designs, the drawing normally contains the following details which also appear in the data sheet:

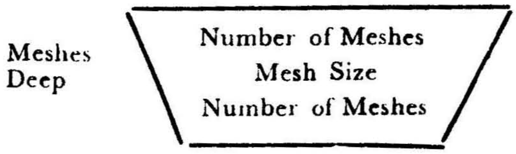
a) The number of meshes at the top and bottom of each panel,

b) The depth of each panel in meshes,

c) The mesh size in the panels in millimetres, and

d) The rates of baiting and cutting of each panel.

3.2 Depending on the layout of the net, the number of meshes in depth and the mesh size appear either inside or alongside the panels thus:



4. DESIGNS FOR TRAWLS

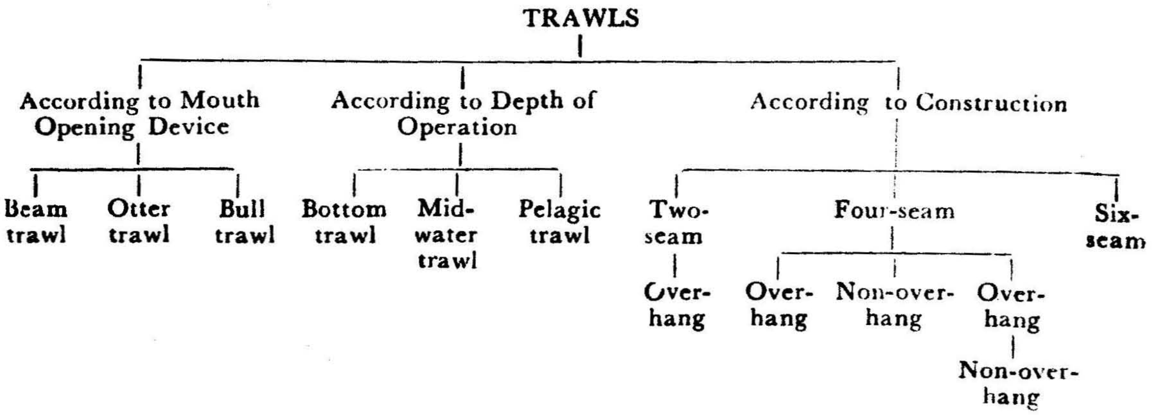
4.1 According to construction, trawls could be classified as two-seam, four-seam, six-seam, etc, according to the number of seams with which it is constructed. Constructional details of four most popular designs of two-seam trawls have been covered in this guide. The designs relating to trawls of four-seam and six-seam types would be added to this guide at a future date. The terminology and classification details related to the fabrication of trawls have been given in Appendix A.

APPENDIX A

TERMINOLOGY RELATING TO TRAWL NETS

A-1. CLASSIFICATION

A-1.1 Trawl nets are classified as under:



A-2. SIZE OF TRAWL

A-2.1 In beam trawl, the size of the trawl is indicated by the length of the beam used. In otter trawls, the size of the trawl is the length of head rope.

A-3. PARTS OF THE TRAWL

A-3.1 Each part of the trawl is named according to its main function. It is convenient to group the parts under three main heads, namely, webbings, ropes and lines, and accessories.

A-3.1.1 *Webbings* — The material, mesh size and the dimensions in length and breadth in number of meshes are to be specified. The baiting, the creasing or the cutting rate, if any, are also to be indicated.

A-3.1.2 *Ropes and Lines* — The material, lay, construction, thickness and the quantity required are to be specified.

A-3.1.3 *Accessories* — The material, size, the quantity required and the mode of use are to be specified.

A-4. DEFINITIONS OF TERMS RELATED TO WEBBINGS

A-4.1 Wings — The forward extension of webbings on either sides for guiding the fish towards the bag of the trawl. They are in pairs, one on either side. The upper wings are attached on either sides of the upper belly and the lower wings, on either sides of the lower belly. The upper edges of the wings are attached to the head rope and the lower edges to the foot rope.

A-4.2 Jibs — The triangular pieces of webbing attached on either sides of the upper and lower bellies at their junction with wings to present a smooth catenary at the mouth of the net. These are made in pairs, one for each side. The four-seam type of trawls are invariably provided with jibs.

A-4.3 Dogear — They are similar to jibs, having all bars along the hanging edge and points on the wings. In two-seam trawls, sometimes the dogears are attached on either ends of the quarter to form a smooth catenary. They are also made in pairs.

A-4.4 Bosum — The middle portion of the trawl net between the wings.

A-4.5 Side Pieces — These are also termed 'side wedges'. They are identical pieces of webbing attached on either sides of the belly to join the upper and lower portions of a four-seam trawl. The portion of the webbing that comes above the belly is termed 'top wedge' and the portion placed adjacent to belly is known as 'lower wedge' or 'side wedge'.

A-4.6 Quarter — The two junctions where the top wing joins the square.

A-4.7 Square — The front portion of the upper portion of a trawl which overhangs the lower part of the net. The webbing for the square extends from the 'baiting' to the head rope.

A-4.8 Top Belly — The portion of the webbing between the square throat or cod-end on the upper side of a trawl. It is also called 'top body' or 'baiting'.

A-4.9 Lower Belly — The section of the webbing that forms the lower body of the trawl from the foot rope to the fore-part of the throat or cod-end. It is also called as 'lower body'.

A-4.10 False Belly — Old pieces of thick webbing or raw hides attached below the belly of a trawl as a chafing gear. It is also known as 'rubber'.

A-4.11 Throat — The portion of webbing placed in between or intermediate to the belly and cod-end. It is also known as the 'extension piece' or 'lengthener'.

A-4.12 Cod-End — The narrow end section of the trawl net, usually of heavy construction with small meshes where the fish is collected during the operation of the net.

A-4.13 Flapper — The webbing attached to the fore-part of the cod-end as a safety device to prevent the escape of fish from the cod-end. 'Funnel', 'pocket', 'valve', 'floppa', 'sack' and 'trap' are the other names used for the flapper.

A-4.14 Apron — Old piece of thick netting attached below the cod-end as a chafing gear. It is also called 'dress'.

A-4.15 Selvedge — The net is sometimes fastened to the ropes by meshes made of thicker twine than the rest of the webbing, known as selvedge. The selvedge usually extends for 3 to 6 meshes.

A-4.16 Baiting — A baiting or reducing the number of meshes in successive rows so as to make a tapering piece of webbing during hand braiding. This is brought about by picking up two-half meshes of the previous row and bringing them under a single knot in the successive row. It is also called 'stealing'.

A-4.17 Creasing — Increasing the number of meshes in successive rows so as to alter the shape of the webbing. In this method, additional loops are made at the required row.

A-4.18 Cutting Rate — The method of intermingling different types of cuts, at distinct rates in a rythmical way during the tailoring to shape of machine-made webbing.

A-5. DEFINITIONS OF TERMS RELATED TO ROPES AND LINES

A-5.1 Head Rope — The rope or line to which the upper edge of the net is finally attached. 'Head line', 'float line' and 'cork line' are the common names used for this rope. Floats are attached to this rope for keeping the net buoyant.

A-5.2 Foot Rope — The rope to which the lower edge of the net is attached finally. 'Ground rope', 'ground line', 'foot line' and 'lead line' are the other common names used for this rope. Weights are attached to this rope for stretching the net downwards.

A-5.3 Bolch Line — A line or thin rope of strong construction to which the webbing is initially hung, prior to the rigging of the net to the relevant head or foot ropes.

A-5.4 Lacing Twine — A thin strong twine used for seaming or joining the longitudinal edges or adjacent panels of webbings.

A-5.5 Cod-End Rope — A strong rope laced through the end meshes of the cod-end used for securing as well as releasing the catches from the cod-end.

A-5.6 Bridle — Name given to the four short chains or iron bars that hold the otter board at the proper angle, or the short pair of lines (legs) attaching the board to the wing of the trawl, or the short lines that hold the spreader in position.

A-5.7 Sweep Line — The ropes or cables that connect the wing of the trawl and the otter board, used to make the otter boards sweep a wider area.

A-5.8 Quarter Rope — Ropes used for hauling the trawl on to the vessel. They are used in pairs. Starting from the lower quarter junctions of the trawl, they are taken on the outside of the netting and pass through the 'beckets' (eyes) provided for the purpose on the head rope and are attached to the otter boards or dan-le-nos.

A-6. DEFINITIONS OF TERMS RELATED TO ACCESSORIES

A-6.1 Beam — A metal or wooden beam to which the beam trawl net is attached during operation.

A-6.2 Dan-le-no — Strong short sticks or iron pieces attached to the ends of either wings of the trawl to keep the wing tips stretched vertically. 'Dheenleno', 'brail' and 'spreader' are the other terms used for this.

A-6.3 Tickler Chain — Iron chain attached ahead of the foot rope of a trawl net to disturb the bottom fish and to induce them to enter the net.

A-6.4 Otter Boards — Boards made of planks and steel plates used for keeping open the mouth of the trawl net horizontally. They are of different shapes; but the flat rectangular and the oval are the common forms. They are constructed in pairs as one 'right' and the other 'left'.

A-6.5 Towing Rope — Strong manila or coir rope used during hand operation or strong wire rope used during winch operation of the trawl net to drag the net.

A-6.6 Floats — Buoyant materials, like wood, cork, glass, aluminium alloy, steel, plastic, etc, in various shapes and sizes used for keeping the head rope of a net upwards.

A-6.7 Weights — Sinking materials, like lead, iron and cement in various shapes and sizes for keeping the foot rope of net downwards.

A-6.8 Bobbins — These are of spherical shape with a cylindrical channel large enough to allow an eye spliced wire rope through the centre. They vary in size and weight, and are made of wood, rubber or iron. Bobbins are used to prevent the gear from catching on the sea bed by rolling along the bottom.

A-6.9 Butterfly — It is an angle bar of flat iron, one side of the angle being shorter than the other. The shorter side is connected to the foot rope and the longer side is connected to the head rope. Its purpose is to spread the wings vertically.

INDIAN STANDARD GUIDE FOR FISHING GEAR : PART II DATA SHEET FOR 11·40 m TWO-SEAM COTTON TRAWL NET

NAME OF GEAR : 11·40 m Shrimp Trawl Net	LOCALITY : Cochin	VESSEL
Type:Two-Seam; Head Rope:11·40 m; Foot Rope:13·94 m	Main Species Caught : Shrimp	Length Overall:7·62 m; Horse Power:14-20

PARTICULARS OF WEBBING

WEBBING	*A*	*A*1	*B*	*B*1	*C*		*E*	*F*	*G*	*H*
Material	Cotton	Cotton	Cotton	Cotton	Cotton	Cotton	Cotton	Cotton	Cotton	Cotton
Type of Knot	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl
Preservation	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch
Colour	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown
Twine Size[*]	20/8/3	20/8/3	20/8/3	20/8/3	20/8/3	20/8/3	20/8/3	20/8/3	20/8/3	20/8/3
Breaking Strength kg	11·2	11·2	11·2	11·2	11·2	11·2	11·2	11·2	11·2	12·54
Stretched Mesh mm	57	51	57	51	51	45	38	32	25	25
Upper Edge	10	50	10	30	240	210	190	170	150	125
Lower Edge	46	100	27	80	210	190	170	150	115	125
Depth	70	50	97	50	30	40	40	40	50	100
Baiting Rate Inner/Outer	1 : 2	1 : 1	1 : 5·5[†]	1 : 1	1 : 2	1 : 4	1 : 4	1 : 4	1 : 4	
Cutting Rate Inner/Outer	1P2B	All Bar	2P1B3P1B	All Bar	1P2B	1P1B2P1B	1P1B2P1B	1P1B2B1B	1P1B2P1B	All Points
Quantity kg	←				Total 10·19				→	2·56
Hanging	$\frac{a}{A} = \frac{3{\cdot}04}{3{\cdot}94}$	$\frac{b}{A1} = \frac{2{\cdot}20}{{\cdot}55}$	$\frac{d}{B} = \frac{4{\cdot}40}{5{\cdot}53}$	$\frac{e}{\cdot} = \frac{2{\cdot}27}{2{\cdot}55}$	$\frac{c}{C} = \frac{0{\cdot}90}{2{\cdot}04}$	$\frac{F}{D} = \frac{0{\cdot}60}{1{\cdot}29}$				

PARTICULARS OF LINES AND ROPES

LINES, ROPES	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*		
Material	Manila[‡]	Manila	Manila	Manila	Manila	Manila	Manila	Manila		
Preservation	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch		
Diameter mm	12	12	12	18	18	18	12	18		
Breaking Strength kg	1 065	1 065	1 065	2 440	2 440	2 440	1 065	2 440		
Length m	3·04	2·2	0·92	4·4	2·27	0·60	2·27	2·27		

PARTICULARS OF OTHER ACCESSORIES

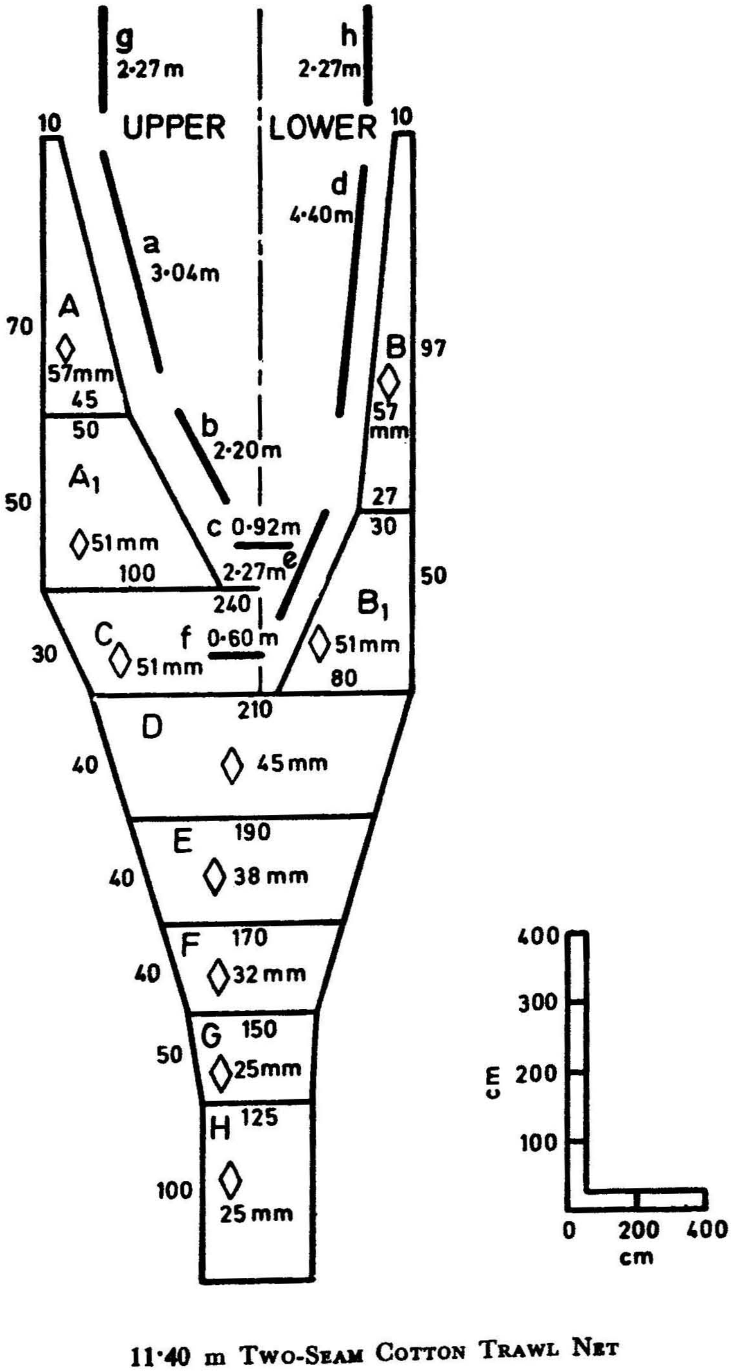
ITEMS	FLOATS	SINKERS	DAN-LE-NO	BOBBINS	OTTER BOARDS
Number	9-10	48			2
Material	Aluminium	Lead			Iron & Wood
Shape	Spherical	Spindle			
Diameter/Bore cm	12·5	1·9			
Length cm					76·20
Breadth cm					38·10
Static Buoyancy kg	7·11-7·90				
Weight in Air kg	2·34-2·60	11			10-15

OTHER INFORMATION

[*] IS : 4945 (Part II)-1968 Specification for cotton twines for fish nets : Part II Twines for trawl nets.

[†] Last three and one-half meshes to be made without baiting.

[‡] IS : 1084-1969 Specification for manila ropes.



11·40 m Two-Seam Cotton Trawl Net

INDIAN STANDARD GUIDE FOR FISHING GEAR : PART III DATA SHEET FOR 13 m TWO-SEAM COTTON TRAWL NET

NAME OF GEAR : 13 m Shrimp Trawl Net	LOCALITY : Cochin	VESSEL
Type : Two-Seam; Head Rope : 13 m; Foot Rope : 16 m	Main Species Caught : Shrimp	Length Overall : 9·14 m; Horse Power : 30

PARTICULARS OF WEBBING

WEBBING	*A*	*A1*	*B*	*C*	*D*	*E*	*F*	*G*	
Material	Cotton	Cotton	Cotton	Cotton	Cotton	Cotton	Cotton	Cotton	
Type of Knot	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	
Preservation	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	
Colour	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	
Twine Size*	20/8/3	20/8/3	20/8/3	20/8/3	20/9/3	20/9/3	20/10/3	20/12/3	
Breaking Strength kg	11·2	11·2	11·2	11·2	12·54	12·54	14·10	16·62	
Stretched Mesh mm	64	64	64	64	57	51	45	32	
Upper Edge	10	30	15	220	180	140	100	60	
Lower Edge	30	70	45	180	140	100	60	90	
Depth	50	40	130	30	40	40	40	120	
Baiting Rate Inner/Outer	1 : 25	1 : 1	1 : 4†	1 : 1·5	1 : 2	1 : 2	1 : 2		
Cutting Rate Inner/Outer	1P1B(2)1P2B	All Bar	1P1B (4)2P1B	1P4B	1P2B	1P2B	1P2B	All Points	
Quantity kg	← — — —	Total 3·28	———	— — — →	2·2	1·52	1·06	3·52	
Hanging	$\frac{a}{A}=\frac{2{\cdot}76}{3{\cdot}20}$	$\frac{b}{A1}=\frac{2{\cdot}45}{2{\cdot}56}$	$\frac{d}{B}=\frac{6{\cdot}85}{8{\cdot}32}$	$\frac{c}{C}=\frac{2{\cdot}58}{5{\cdot}12}$	$\frac{e}{D}=\frac{2{\cdot}30}{4{\cdot}50}$				

PARTICULARS OF LINES AND ROPES

LINES, ROPES	*a*	*b*	*c*	*d*	*e*	*f*	*g*		
Material	Manila‡	Manila	Manila	Manila	Manila	Manila	Manila		
Preservation	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch		
Diameter mm	12	12	12	18	18	12	18		
Breaking Strength kg	1 065	1 065	1 065	2 440	2 440	1 065	2 440		
Length m	2·74	2·43	2·58	6·85	2·27	2·58	2·58		

PARTICULARS OF OTHER ACCESSORIES

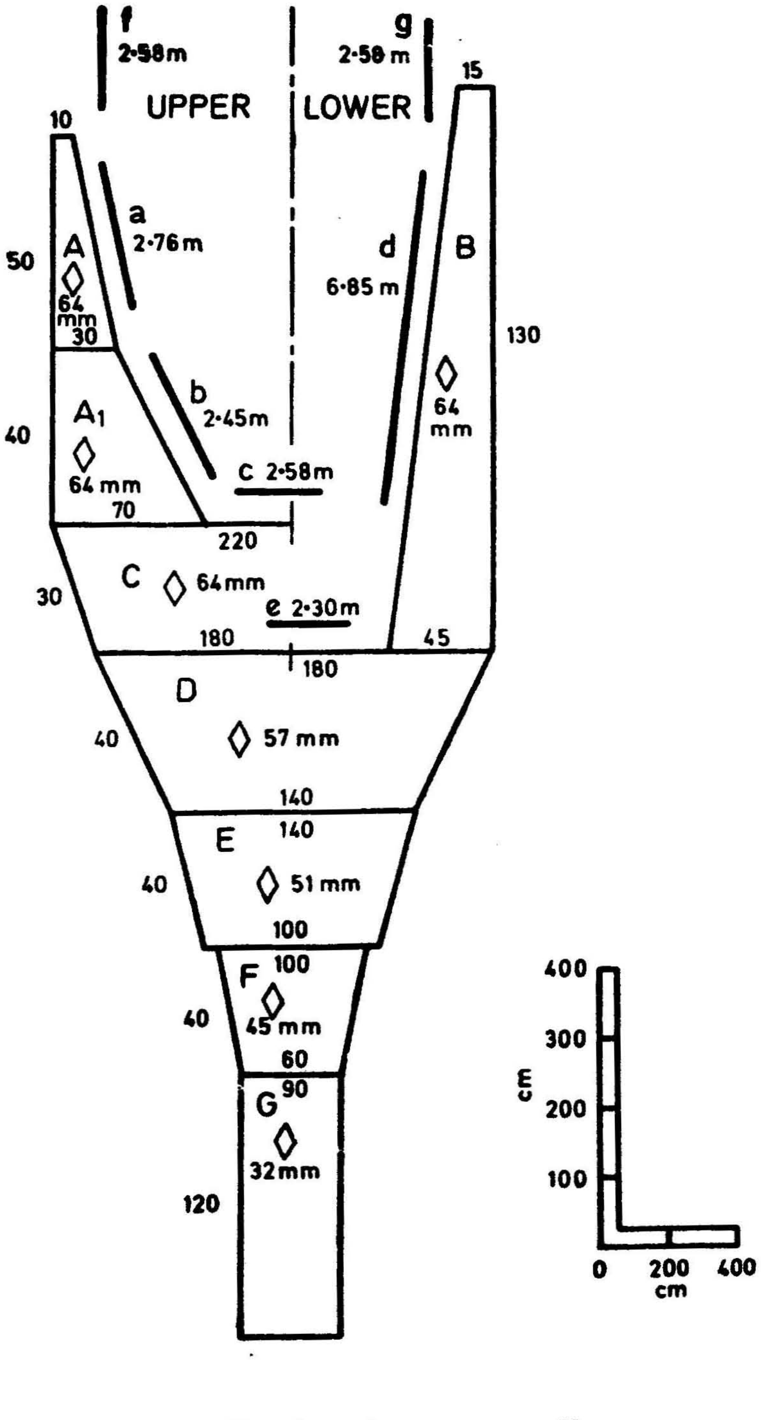
ITEMS	FLOATS	SINKERS	DAN-LE-NO	BOBBINS	OTTER BOARDS
Number	10-11	55			2
Material	Aluminium	Lead			Iron & Wood
Shape	Spherical	Spindle			
Diameter/Bore cm	12·5	1·9			
Length cm					106·68
Breadth cm					60·96
Static Buoyancy kg	7·8-8·6				
Weight in Air kg	2·6-2·9	13			32-36

OTHER INFORMATION

*IS : 4945 (Part II)-1968 Specification for cotton twines for fish nets: Par II Twines for trawl nets.

†Last ten meshes to be made without baiting.

‡IS : 1084-1969 Specification for manila ropes.



13 m Two-Seam Cotton Trawl Net

INDIAN STANDARD GUIDE FOR FISHING GEAR : PART IV DATA SHEET FOR 18·25 m TWO-SEAM COTTON TRAWL NET

NAME OF GEAR : 18·25 m Shrimp Trawl Net	LOCALITY : Cochin	VESSEL
Type : Two-Seam; Head Rope : 18·25 m; Foot Rope : 20·7 m	Main Species Caught : Shrimp	Length Overall : 9·75 m; Horse Power : 36-40

PARTICULARS OF WEBBING

WEBBING	*A*	*A*1	*B*	*C*	*D*	*E*	*F*	*G*	
Material	Cotton	Cotton	Cotton	Cotton	Cotton	Cotton	Cotton	Cotton	
Type of Knot	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	
Preservation	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	
Colour	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	
Twine Size*	20/10/3	20/10/3	20/10/3	20/10/3	20/10/3	20/10/3	20/15/3	20/18/3	
Breaking Strength kg	14·10	14·10	14·10	14·10	14·10	14·10	19·29	23·7	
Stretched Mesh mm	76	76	76	76	64	51	38	32	
Upper Edge	20	30	25	230	252	190	120	120	
Lower Edge	30	80	65	210	152	90	120	120	
Depth	50	50	120	20	100	100	50	135	
Baiting Rate Inner/Outer	1 : 5	1 : 1	1 : 3	1 : 2	1 : 2	1 : 2			
Cutting Rate Inner/Outer	2P1B	All Bars	1P1B	1P2B	1P2B	1P2B	All Points	All Points	
Quantity kg	←			Total 19·04		→	1·44	4·56	
Hanging	$\frac{a}{A} = \frac{3\cdot 65}{3\cdot 80}$	$\frac{b}{A1} = \frac{3\cdot 65}{3\cdot 80}$	$\frac{d}{B} = \frac{8\cdot 83}{9\cdot 12}$	$\frac{c}{C} = \frac{3\cdot 65}{5\cdot 32}$	$\frac{e}{D} = \frac{3\cdot 04}{6\cdot 25}$				

PARTICULARS OF LINES AND ROPES

LINES, ROPES	*a*	*b*	*c*	*d*	*e*	*f*	*g*		
Material	Manila†	Manila	Manila	Manila	Manila	Manila	Manila		
Preservation	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch	Cutch		
Diameter mm	18	18	18	25	25	25	25		
Breaking Strength kg	2 440	2 440	2 440	4 570	4 570	4 570	4 570		
Length m	3·65	3·65	3·65	8·83	3·04	3·65	3·65		

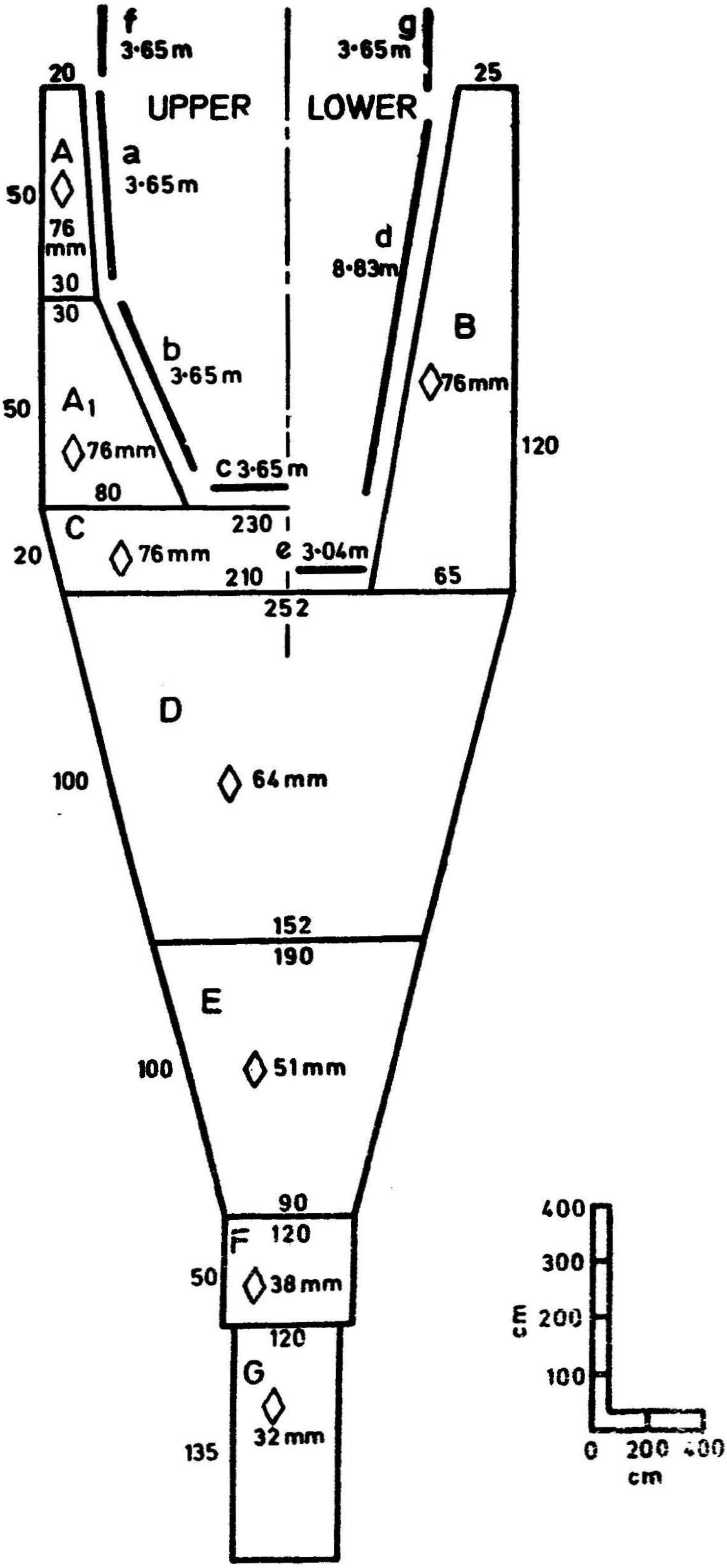
PARTICULARS OF OTHER ACCESSORIES

ITEMS	FLOATS	SINKERS	DAN-LE-NO	BOBBINS	OTTER BOARDS
Number	7-8	70			2
Material	Aluminium	Lead			Iron & Wood
Shape	Spherical	Spindle			
Diameter/Bore cm	15·87	1·90			
Length cm					139·70
Breadth cm					63·50
Static Buoyancy kg	11·62-13·3				
Weight in Air kg	2·74-3·13	16			50 to 55

OTHER INFORMATION

*IS : 4945 (Part II)-1968 Specification for cotton twines for fish nets : Par II Twines for trawl nets.

†IS : 1084-1969 Specification for manila ropes.



18·25 m TWO-SEAM COTTON TRAWL NET

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